

Balantidium Coli Infection In a Vietnam Returnee

ROBERT H. LERMAN, MAJOR, MC, USA,
WILLIAM T. HALL, CAPTAIN, MC, USA, AND
O'NEILL BARRETT, JR., COLONEL, MC, USA,
Honolulu

DIARRHEAL DISEASES are common in American troops in and returning from Southeast Asia. Most cases are bacterial, usually due to *Salmonella* or *Shigella* organisms. Protozoal infections, especially amebiasis and giardiasis, are also commonly seen. Balantidiasis, on the other hand, is rarely seen and therefore less likely to be considered in the evaluation of patients with diarrhea.

Report of a Case

A 19-year-old Caucasian man was admitted to Tripler General Hospital in May 1969 with chief complaint of diarrhea. A month before admission he noted nausea and he vomited once. Shortly afterward watery, brown, often explosive diarrhea developed, defecation occurring four to six times a day. This persisted and was associated with anorexia and an 8 or 10 pound loss in weight. The patient had been stationed in the Republic of Vietnam for nine months and had occasionally drunk well water. Three months before admission he was treated for hookworm infection. He denied fever, fatty stools, melena or bright red blood per rectum. Past medical history was unremarkable.

When examined he was observed to be thin, well-developed and in mild distress. Explosive diarrhea was occurring every 20 minutes when he

was first seen. Blood pressure was 108/68 mm of mercury, pulse rate 78 per minute and temperature 37.5°C (99.4°F).

Bowel sounds were hyperactive and there was tenderness in the upper and lower left quadrants of the abdomen. No hepatosplenomegaly was present. No abnormality was noted in the remainder of the examination.

Leukocytes numbered 10,300 per cu mm with a normal differential. Platelets appeared normal on the blood smear. The hematocrit was 44 percent and hemoglobin content was 15.8 grams per 100 ml. On microscopic examination of a fresh stool specimen many large, oval, ciliated parasites with an easily definable macronucleus and several small vacuoles characteristic of *Balantidium coli* were seen. Results of other studies, including stool cultures and liver function tests, were negative or within normal limits.

Following the diagnosis of balantidiasis, the patient was treated with tetracycline 250 mg four times a day and Diodoquin® 650 mg three times a day for 21 days. He became asymptomatic within 36 hours and no abnormalities were noted in subsequent stool examinations.

Comment

Balantidium coli is an oval, ciliated, actively motile protozoan, measuring 50 to 75 micra in length. It contains a large, kidney-shaped macronucleus and usually two contractile vacuoles. A micronucleus may be found near the concavity of the macronucleus. The constantly moving cilia are visible under high-power magnification. It infects man incidentally, the hog being the usual definitive host.¹ The disease is uncommon and has not been frequently reported in the American literature.² In one large study of 3,600 patients with diarrheal diseases, the incidence of *Balantidium coli* was only 0.44 percent.³ The low incidence of infection and failure to transmit the disease experimentally suggests that man has a high resistance.

The severity of symptoms with *B. coli* varies. Some patients are asymptomatic, but in the majority diarrhea is characteristic, with as many as 5 to 25 stools per day.¹ On occasion, severe dysentery may be noted, with liquid feces containing mucus, blood and pus. Tenesmus, colic and tenderness over the colon are also present.

Diagnosis depends on demonstration of trophozoites in a diarrheal stool. The large size of the parasite, its constant ciliated movement and large

From the Department of Medicine, U.S. Army Tripler General Hospital, Honolulu.

Submitted February 2, 1970.

Reprint requests to: P.O. Box 276, Tripler Army Medical Center, APO San Francisco 96438 (Colonel Barrett).

nucleus permit easy identification of the organism.⁴ Treatment with Diodoquin® and tetracycline is safe and effective and probably represents the preferable mode of therapy,⁴ although ampicillin may be equally effective.⁵

The possibility of balantidiasis should be considered in evaluating patients with diarrhea who have been in Southeast Asia.

TRADE AND GENERIC NAMES OF DRUGS

Diodoquin® 5,7-diiodo-8-hydroxyquinoline

REFERENCES

1. Bending DL: Textbook of Parasitology. New York, Appleton-Century-Crofts, 1965
2. Garcia-Pont PH, Ramirez de Arellano G: Fatal balantidial colitis. Bol Assoc Med P Rico 58:195-199, 1966
3. Breitenfeld V, Bezjak B: Treatment of chronic protozoal intestinal diseases with intestopan. Trop Geogr Med 18:114-118, 1966
4. Brown HW: Balantidiasis, In Beeson PB, McDermott W (Eds): Textbook of Medicine. Philadelphia, WB Saunders Co, 1967, pp 383-384
5. Bell S: Trial of ampicillin in balantidial dysentery. J Trop Med Hyg 66:309-310, 1963

THE "PRIVATE PRACTICE" AMPICILLIN RASH

"Rubella-like rashes are quite common after ampicillin. It's of interest that these are rarely seen in hospitals and they are commonly seen by practicing physicians and outpatient departments. If one breaks this down, it appears that the rashes are more commonly seen if the drug is given orally than if it is given intramuscularly and that the highest incidence appears in patients who receive ampicillin orally for respiratory infections. This puzzled us for a while; but I think the answer is probably at hand.

"A number of months ago, an article in the British journal *Lancet* indicated that if a patient with infectious mononucleosis received ampicillin, . . . he would invariably get a rash—either an ampicillin or an infectious mononucleosis rash. We therefore gave our next few infectious mononucleosis patients ampicillin and sure enough within 24 hours they had a rash. In children whose heterophil determinations are quite unreliable, this turned out to be a pretty good test for infectious mononucleosis.

"This suggested that the reason rubella-like rashes occur in respiratory disease is because most of these diseases are viral, much like infectious mononucleosis. What the patient has before he gets the ampicillin is a mild, transient involvement of his blood vessels, a very mild vasculitis which is quite common with viral infections. When you add ampicillin, which can also produce a mild vasculitis, the patient gets a rash. This would be a very fine explanation of why it is so commonly seen in private practice where the drug is used for the treatment of respiratory disease and so rarely in the hospital where it is used primarily for the treatment of such obvious bacterial conditions as meningitis and shigellosis."

—HEINZ F. EICHENWALD, M.D., Dallas
Extracted from *Audio-Digest Pediatrics*, Vol. 15, No. 4, in the Audio-Digest Foundation's subscription series of tape-recorded programs.